

AVAN/001004

**REMARKS**

The following is intended as a full and complete response to the Office Action mailed on March 29, 2005. Claims 1-31 were examined. The Examiner rejected claims 1-22 and 31 under 35 U.S.C. §102(b) as anticipated by Shiragaki (U.S. Patent No. 5,663,820) and claims 23-30 under 35 U.S.C. §102(b) as anticipated by Holender (U.S. Patent No. 5,729,548). The Examiner also rejected claim 30 under 35 U.S.C. §112, second paragraph. In response, Applicant is canceling claim 31.

**Rejection under 35 U.S.C. §112, Second Paragraph**

The Examiner rejected claim 30 for failing to particular point out and distinctly claim the subject matter of the invention. In response, Applicant is amending claim 30 to address the Examiner's concerns. Withdrawal of the §112, second paragraph, rejection is therefore respectfully requested.

**Rejections under 35 U.S.C. § 102(b)**

Claim 1 recites the limitations of a signal switching part that is configured to switch any of a plurality of inputs to any of a plurality of outputs and an optical router. Shiragaki does not teach or suggest either of these limitations.

Shiragaki discloses an optical communications network having two nodes, Node A and Node B, where each node includes an optical switch (40, 54). Figure 2 of Shiragaki shows the details of the optical switch used in each of Nodes A and B. See Shiragaki at col. 4, lines 28-30 ("FIG. 2 shows the details of the optical switch used in each node of the optical network of the present invention"). Figure 2 teaches that each optical switch has an optical switch section (30) and digital cross-connect system 31 and receives two sets of inputs – a set from upstream nodes input into the optical switch element (30) and a set from a local switch input into the digital cross-connect system (31). The set of inputs received from upstream nodes and input into the optical switch element (30) are output to the OLTM element (33). The outputs of the OLTM element (33) are input into the digital cross-connect system (31), and these input are, in turn, output by the digital cross-connect system (31) to a local switch. The set of inputs received from the local switch and input into the digital cross-connect system (31) are output to the OLTM element (32). The outputs of the OLTM element (32) are input into the optical switch element

AVAN/001004

(30), and these inputs are, in turn, output by the optical switch element (30) to one or more downstream nodes. See Sharigaki at col. 4, lines 28-49 and Figure 2. There is simply no teaching or suggestion that the inputs and outputs of the optical switch element (30) and the digital cross-connect system (31) can be configured differently from what is taught in Figure 2. Importantly, the switching scheme presented in Figure 2 is static, meaning that certain types of inputs are always switched to certain types of outputs. Thus, unlike the signal switching part of claim 1, the optical switch disclosed in Figure 2 is not one where any input is able to be switched to any output. Further, there is no teaching in Sharigaki that the disclosed optical switch is an  $n \times n$  optical switch, let alone a  $16 \times 16$  or  $8 \times 8$  optical switch, as recited, for example, in claims 2, 4 and 5.

In addition, Sharigaki does not disclose an optical router, as also recited in claim 1. As previously discussed, Figure 4 of Sharigaki discloses an optical communications network with two nodes, Node A and Node B. Each node includes a switch and multiplexers/demultiplexers to combine and separate OAM signals and their corresponding payload signals. The OAM signals are used to troubleshoot the transmissions between the Node A and Node B. See generally Sharigaki at col. 5, lines 8-60. Importantly, Figure 4 of Sharigaki speaks only to switching functionality. There is no description of any type routing functionality. As is well-known in the art, a switch is a device that channels data from an input port to a specific output port to send the data to a specific destination. A router element, however, actually performs a "look-up" in a routing table to determine the destination address of the data. There is simply no teaching or suggestion in Sharigaki that any of the switch elements in Node B of Figure 4 are configured with such routing functionality. Thus, the disclosed elements are merely switching elements, not routing elements.

As the foregoing illustrates, Sharigaki fails to teach or suggest each and every limitation of claim 1. For this reason, Sharigaki cannot anticipate claim 1 or claims 2-7, dependent thereon.

Independent claim 8 recites the limitation of a plurality of routers having spare capacity for failed routers. As discussed above, Sharigaki does not disclose any routers, let alone the plurality of routers having spare capacity recited in claim 8. Thus, Sharigaki also fails to teach or suggest each and every limitation of claim 8. For this reason, Sharigaki cannot anticipate claim 8 or claims 9-13, dependent thereon.

AVAN/001004

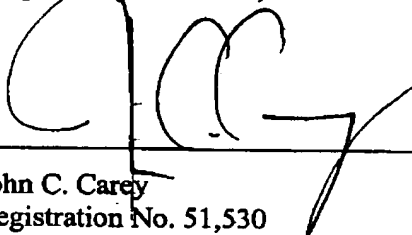
Independent claim 14 recites limitations similar to those discussed above in connection with allowable claims 1 and 8. Claim 14 and claims 15-22, dependent thereon, are therefore allowable for at least the same reasons as claims 1 and 8.

Finally, claim 23 recites the limitation that optical switching occurs between a plurality of channels and a plurality of routers. Figure 8 of Holender, cited by the Examiner, does not disclose a system with the structure necessary to meet this limitation. On the contrary, this figure discloses a system having a switch disposed in between two routers. Therefore, switching only occurs between a plurality of channels and one router, not a plurality of routers, as recited in claim 23. Since, Holender fails to teach or suggest each and every limitation of claim 23, this reference cannot anticipate claim 23 or claims 24-30, dependent thereon.

#### Conclusion

Based on the above remarks, Applicant believes that she has overcome all of the rejections set forth in the Office Action mailed March 29, 2005 and that the pending claims are in condition for allowance. If the Examiner has any questions, please contact the Applicant's undersigned representative at the number provided below.

Respectfully submitted,



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